

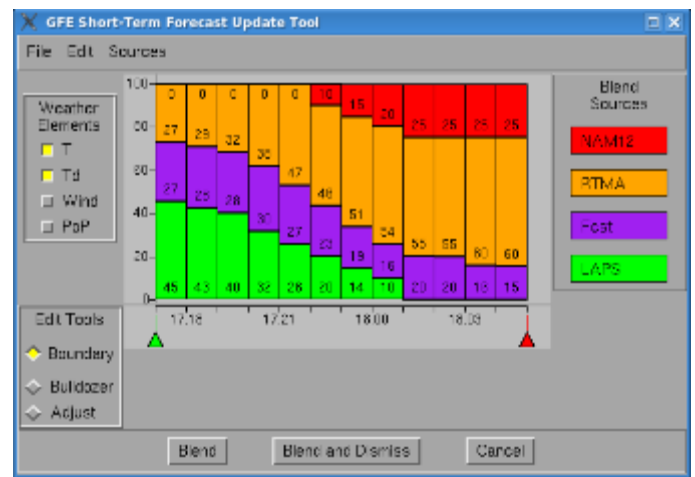
# FDSE - Short-term Update Tool

## What is FDSE?

National Weather Service (NWS) forecasters must sift through large volumes of 4-dimensional data then efficiently generate forecasts based on that information. The ever-increasing volume of information challenges forecasters to view data pertinent to the given weather scenario. The Forecaster Decision Support Environment (FDSE) project explores new data management and processing capabilities to enhance situational awareness, allow forecasters to work more efficiently, and improve model ensemble capabilities in order to explore probabilistic forecast products. Efficiency improvements will allow forecasters to spend more time providing their customers Impact-based Decision Support Services.

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**Short-term Update Tool** - The Short-term Update Tool provides forecasters with an interface to quickly and efficiently blend numerical guidance from a variety of sources to generate consensus gridded forecasts. The interface lets users add and remove blending sources as well as interactively adjust their weights as a function of time. When all the parameters are defined, a single button creates up to a dozen hourly forecast grids for each selected weather element.



Short-term Update tool user interface showing the influence each data source has on each hour of the 1-12 hour forecast.

**Concept of Operations** - The Short-term Update Tool is intended to support an operational methodology where forecasters review the first 12 or so hours of the forecast roughly once per hour during a forecast shift. Using the FDSE Grid Monitor, forecasters gather information about which components of the forecast need adjustment and perhaps which model is verifying consistently better. Forecasters apply that information using the Short-term Update Tool to “nudge” the official forecast toward extrapolated observational grids for the first few hours and perhaps toward numerical guidance that is verifying well for the latter part of the 0-12 hour period. Including extrapolated observational grids in the first few hours should help keep the early part of the forecast close to observed values. Retaining a component of the Official forecast will help dampen any sharp changes in the updated forecast. Forecasters who compare their forecasts to observations frequently are likely to correct a forecast problem before the discrepancy grows too large.

## Goals and Impacts

- Provide a fast and efficient technique to update the earliest period of the gridded forecast.
- Improve gridded forecast maintenance efficiency while improving short-term accuracy

- Allow forecasters more time for Impact-base Decision Support Services